## III. REMARKS/ARGUMENTS

### A. Status of the Claims

Claims 1-17, 19-51, and 53-68 are pending in the application, of which claims 19-38 and 53-68 have been withdrawn from further consideration by the Examiner. Claims 1-17 and 37-51 stand rejected by the Office Action. By this amendment claims 19-38 and 53-68 are canceled. No new matter is added. Applicant respectfully requests reconsideration of the rejections of pending claims 1-17 and 37-51 for at least the following reasons.

### B. Double Patenting Rejection

Withdrawn claims 19-38 and 53-68 stand provisionally rejected under 35 U.S.C. § 101 as claiming the same invention as that of claims 19-36 and 53-68 of copending Application Serial No. 10/979,173 (the "continuing application"). Applicant hereby cancels claims 19-36 and 53-68, without prejudice or waiver, so that the claims may be pursued in the continuing application.[1] As such, Applicant respectfully requests withdrawal of the double patenting rejection.

### B. Claim Rejections

#### *1. Claims 1, 2, 4-10, 13, 14, 37, 38, 40-46 and 49*

Claims 1, 2, 4-10, 13, 14, 37, 38, 40-46 and 49 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 5,659,538 to Stuebe, *et al.*, ("Stuebe"), U.S. Patent No. 5,659,538 to Sanders ("Sanders") and U.S. Patent No. 5,597,642 to Schleinz *et al.* ("Schleinz"). The Applicant respectfully traverses this rejection and requests reconsideration and allowance of the pending claims in view of the following remarks.

[1] Applicant cancelled these claims in response to the Examiner's Restriction Requirement, but errantly indicated these claims as "withdrawn" in a subsequent Response. *See* Applicant's Response dated March 8, 2005.

Three criteria must be met to establish a prima facie case of obviousness: (1) there must be some suggestion or motivation to modify the reference or to combine reference teachings, (2) there must be a reasonable expectation of success, and (3) the prior art references must teach or suggest all the claim limitations. *See* MPEP § 2142 *et seq.* Applicant respectfully submits that the Office Action has failed to establish a prima facie case of obviousness because the prior art of record fails to teach or suggest all of the features of the pending claims—namely, the references fail to teach or suggest a method for incorporating graphics into an absorbent article, where the method includes sensing a line speed reference signal from a line speed target machinery component, as recited in the pending claims.

With respect to claims 1 and 37, the Office Action alleges that "Stuebe discloses a generic method for correlating multiple processes in the manufacture of absorbent articles such as diapers." Office Action at page 3. The Office Action further alleges that although the preferred embodiment is directed to detection of the positioning of fastening tabs on a web relative to the final cut of the article, "Stuebe discloses that the concept can be generalized to any two features of the diaper web, including both the printing and the cutting (see column 3, lines 35-40). Therefore Stuebe discloses [] the line speed target machinery and phase target machinery as claimed."[2] Office Action at page 4. The Office Action acknowledges that "Stuebe does not disclose that the line speed reference is detected from a line speed target machinery component as opposed to the web near the line speed machinery," but that Sanders discloses the use of a line speed reference signal detected from a target machinery component to modify a phase signal and phase machinery. Office Action, page 4.

[2] Applicant would like to note that the Office Action incorrectly states that Stuebe discloses "sensing a phase difference signal (item 32) *from a phase target machinery component* (see column 4, line 14 to column 4, line 32) and setting an actual operating phase angle, based on the phase difference signal . . . ." Office Action, pages 3-4 (emphasis added). Applicant respectfully submits that the cited portion of Stuebe actually discloses that the angular position of the knife is set and adjusted relative to the *position of the fastener tabs on the web*, and not relative to another machinery component. *See* Applicant's Response dated March 8, 2005, pages 12-13.

However, Applicant respectfully submits that neither Stuebe nor Sanders disclose a method involving sensing a line speed reference signal from a line speed target machinery component. As presented in Applicant's previous Response dated March 8, 2004, and as acknowledged in the Office Action, the registration control system of Stuebe involves the detection and control relative to a component on a moving ***web***, rather than sensing signals from the ***machinery*** itself and controlling a process relative to those signals. Sanders does not cure this deficiency, because the method of registration control system in Sanders is based ***exclusively*** on positional data inputs (i.e., relative to an article length), and ***does not include a line speed input***, sensed from the machinery or otherwise.

For example, the registration control system of Sanders involves a lineshaft encoder that "provides reference, ***position data*** regarding the location of each article length along the substrate and along the machine direction 40 of the apparatus. The position data can include marker pulses 74 which operably correspond to the position and presence of an individual article segment." Sanders, col. 8, line 65 - col. 9, line 4 (emphasis added). The lineshaft encoder (Figure 1, item 72) generates marker pulses and phasing pulses used as inputs (item S10) by the registration controller (item 88). Sanders, col. 9, lines 9-11, 43-45. These pulses serve as reference points for location of components, but the values that these pulses represent are ***independent of the line speed***. For example, the marker pulse occurs "one time per article length 36, and is desirably configured to indicate a machine period or distance which corresponds to a single article segment." Sanders, col. 9, lines 12-15. The phasing pulses represent smaller segments that represent a predetermined fraction of the article length. Sanders, col. 9, lines 19-34. Thus, "the phasing pulses can be employed as a 'ruler' to measure the phase and position relationships between the various electrical signals generated." Sanders, col. 9, lines 38-40. In other words, each phased machine component has a predetermined spacing relationship between its flag signal and the marker pulse, measured in ***number of phase pulses***. Sanders, col. 9, lines 56-63. A computer evaluates

the difference between the ***actual number*** of pulses, and the ***desired number*** of pulses and corrects accordingly. Sanders, col. 9, lines 63-67. However, the Sanders automatic registration control process operates ***independently of the line speed***. As the line speed increases or decreases, the marker pulses, phasing pulses, and desired positional relationships remain unchanged – the frequency and/or duration of these pulses may increase or decrease, but the pulses themselves represent exactly the same values regardless of the line speed. Thus, the lineshaft encoder is ***not*** designed to detect the line speed signal of a machinery component of the manufacturing process. Moreover, Sanders does not disclose ***any*** means for generating and detecting a line speed signal of a machinery component. In fact, the line speed is ***irrelevant*** to the automatic registration control system of Sanders, which relies purely on positional data inputs. Therefore, neither Stuebe nor Sanders disclose a method that includes sensing a line speed reference signal from a line speed target machinery component, as recited in the pending claims.

Schleinz is insufficient to remedy the deficiencies of Stuebe and Sanders. As the Office Action alleges, "Schleinz discloses that it is known to use rotary cylinder (i.e., graphic applicator) based printing mechanisms in diaper and undergarment manufacturing." Office Action at page 5. However, Schleinz does not disclose any means for detecting the line speed of a machinery component, or of rotating a print cylinder to a predetermined speed based relative to the line speed.

In contrast to Stuebe, Sanders, and Schleinz, the Applicant has found typical indexing methods insufficient for registering the position of a printer cylinder as recited in the pending claims. Unlike typical machine components, a printer cylinder must continue to rotate when a manufacturing process shuts down. *See* Specification at page 25. In order to continue rotating, the printer disengages from the web on which it was printing, and unlocks from the line speed reference signal. "It will be seen that, because the printer 85 is disengaged from the rest of the machinery during the shutdown mode and the print cylinder 86 continues to rotate, the phase of the print cylinder 86 can not

be fixed relative to the other machinery components by the same indexing method [used in a typical manufacturing line]." *Id.* at pages 25-26. However, the Applicant has discovered that a line speed reference signal in combination with a phase difference signal is "sufficient to provide a high-speed continuous supply of properly printed absorbent articles 10 without requiring feedback control systems to continuously measure the location of the graphic 21." *Id.* at page 16. First, the line speed reference signal "is used to operate the printer 85 at the same product speed as the rest of the machinery." *Id.* "The second signal used by the printer controller 93, the phase difference signal, is used to ensure that the graphics 21 are properly located [on the absorbent article.]" *Id.* at page 24. Specifically, the Applicant discovered that

> a phase difference signal can be used to overcome the inability to permanently index the print cylinder 86 relative to the rest of the manufacturing line. In general terms, the printer controller 93 uses the phase difference signal to determine the angular position of one of the machinery components, compares this angular position to the instantaneous position of the print cylinder 86 to determine their actual phase difference (*i.e.*, the angle between the printer and the component), and then accelerates (advances) or decelerates (retards) the print cylinder 86 to change the actual phase difference to be equal to a user-defined predetermined phase angle

*Id.* at page 26. Accordingly, pending claims 1 and 37 recite a method for incorporating graphics into an absorbent article, where the method includes ***sensing a line speed reference signal*** from a line speed target machinery component; rotating the print cylinder at a predetermined speed, based on the line speed reference signal; sensing a phase difference signal from a phase target machinery component; and setting an actual print cylinder phase angle, based on the phase difference signal.

The method of the present invention provides distinct advantages over the prior art method shown in Stuebe and Sanders. For example, the measurement of the angular position of a printer cylinder under Stuebe is triggered by the detection of a fastening tab on the moving web. If a fastening tab is omitted (as may happen when a defective article is made) then no measurement is taken. If the fastening tab is omitted for a period of time during which the line speed changes, then the position of the

graphics may shift drastically out of registration until the next fastener tab is detected, at which point, the controller may respond with a drastic acceleration or deceleration of the printing cylinder. *See, e.g.*, Stuebe, Fig. 3. Moreover, because of variations in the moving web (such as when the web stretches and contracts), the location of the fastening tab will have some variation in the processing direction. As such, the frequency of the triggering event (the detection of the fastener tab) will constantly change, introducing a certain amount of data variation into the detection and control process. This requires the controller to employ a more complex control algorithm to differentiate between normal web variation and actual changes in the process. *See id.* Unless this additional variation caused by the web fluctuations is somehow accounted for, it will be passed on to the print cylinder controller, which will attempt to follow these variations by performing minute speed or phase corrections. Thus, not only does this type of prior art system require a more robust control algorithm to follow these fluctuations (or more complicated control filters to filter out the fluctuations), but it may also result in greater power consumption as the servo motor driving the print cylinder must make many unnecessary corrections by accelerating and decelerating the print cylinder to match the web stretch fluctuations. Because the method recited in the pending claims relies upon detection of a signal from another machine component, which is less variable than a moving web, the claimed method is simpler and more reliable than the method of Stuebe for the purpose of detecting and responding to actual changes in the manufacturing process.

In addition, the method of the present invention is advantageous over the system of Sanders because it is simpler, and therefore more cost effective, than the Sanders method. For example, the method of Sanders requires a line speed encoder, to generate a marker pulse and phasing pulse, a flag sensor to generate a flag signal, a registration controller (computer) to process the signal and the pulses and generate a correction signal, a correction motor to correct improper phasing, a gearing encoder to phase the cutting apparatus, and a phase shifting device to adjust the rate of the turning of the

gearing encoder. In contrast, the method of the present invention includes merely sensing the line speed from a machine component, sensing a phase difference signal from a machine component, and setting the print cylinder to a predetermined phase angle from the phase difference signal, and to rotate at a predetermined speed based on the line speed.

In summary, Stuebe, Sanders, and Schleinz fail to teach or suggest all of the claimed features of the pending claims 1 or 37, because they fail to teach or suggest that they fail to teach or suggest method for incorporating graphics into an absorbent article, where the method includes sensing a line speed reference signal from a line speed target machinery component, as recited in the pending claims. Thus, Applicant respectfully submits that claims 1 and 37, and the claims that depend therefrom, are patentable over Stuebe, Sanders, and Schleinz. Therefore, the Applicant respectfully requests that the Examiner reconsider and withdraw this rejection, and allow claims 1, 2, 4-10, 13, 14, 37, 38, 40-46 and 49.

2. *Claims 2-3 and 38-39*

Claims 2-3 and 38-39 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Stuebe, Sanders, and Schleinz, and further in view of the allegedly admitted prior art. The Office Action alleges that "the admitted prior art discloses that the substrate comprises a backsheet web, and further discloses providing a supply of absorbent pads, a topsheet web, joining the topsheet web to the backsheet web with the absorbent pads located therebetween to form an absorbent core assembly." Office Action at page 7. However, the admitted prior art is insufficient to remedy the aforementioned deficiency of Stuebe, Sanders, and Schleinz, namely that they fail to teach or suggest method for incorporating graphics into an absorbent article, where the method includes sensing a line speed reference signal from a line speed target machinery component, as recited in the pending claims. Thus, Applicant respectfully submits that claims 2-3 and 38-39 are patentable over Stuebe, Sanders, Schleinz, and the allegedly admitted prior art.

Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw this rejection with respect to claims 2-3 and 38-39.

*3. Claims 11, 12, 15, 47 and 48*

Claims 11, 12, 15, 47 and 48 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Stuebe, Sanders and Schleinz and further in view of U.S. Patent No. 6,075,178 to La Wilhelm *et al.* ("La Wilhelm"). The Office Action alleges that "Wilhelm discloses that it is known to utilize wetness indicators and decorative graphics in diaper manufacture." Office Action at page 8. However, LaWilhelm is insufficient to remedy the aforementioned deficiency of Stuebe, Sanders, and Schleinz, namely that they fail to teach or suggest method for incorporating graphics into an absorbent article, where the method includes sensing a line speed reference signal from a line speed target machinery component, as recited in the pending claims. Thus, Applicant respectfully submits that claims 11, 12, 15, 47 and 48 are patentable over Stuebe, Sanders, Schleinz, and LaWilhelm. Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw this rejection with respect to claims 11, 12, 15, 47 and 48.

*4. Claims 16-17 and 50-51*

Claims 16-17 and 50-51 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Stuebe, Sanders, and Schleinz and further in view of U.S. Patent No. 5,003,876 to Harrison *et al.* ("Harrison"). The Office Action alleges that "Harrison discloses that it is known to disengage a printer (i.e., graphic applicator), during the detection of a shutdown (operation of the ink on/off switch) and rotate at an idle speed, and then startup from an idle speed." Office Action at page 9. However, Harrison is insufficient to remedy the aforementioned deficiency of Stuebe, Sanders, and Schleinz, namely that they fail to teach or suggest method for incorporating graphics into an absorbent article, where the method includes sensing a line speed reference signal from a line speed target machinery component, as recited in the pending claims. Thus, Applicant respectfully submits that claims 16-17 and 50-51 are patentable over Stuebe, Sanders,

Schleinz, and Harrison. Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw this rejection with respect to claims 16-17 and 50-51.

## IV. CONCLUSION

The Applicant respectfully submits that the application is in condition for allowance. Applicant believes that no fees are necessary in connection with the filing of this document. In the event any fees are necessary, please charge such fees, including fees for any extensions of time, to the undersigned's Deposit Account No. 50-0206. Should any outstanding issues remain, the Examiner is invited to telephone the undersigned at the number listed below.

Respectfully submitted,
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